REMARKS

An Office Action was mailed on May 13, 2002. Claims 1 – 35 are pending in the present application.

REJECTION UNDER 35 U.S.C. § 102

Claims 1 - 35 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,185,736 to Tyrell et al. Applicants respectfully traverse this rejection.

Applicants disclose a digital subscriber line (DSL) communicating system using a time compression modulation ISDN (TCM ISDN) transmission scheme in which DSL transceivers are influenced by near-end crosstalk (NEXT) and far-end cross talk (FEXT) during different periods of a transmission cycle. In order to accommodate these influences, the transceivers apply a DMT modulation scheme in which two bitmaps are employed. A first bitmap is employed during a NEXT period, and a second bitmap is employed during the FEXT period. The second bitmap takes advantage of transmission characteristics during the FEXT period allowing for transmission of a greater number of bits than during the NEXT period. Applicants' system uses a sliding window scheme in which any symbol to be transmitted during an interval that includes at least a portion of a NEXT period is transmitted using the first bitmap.

Applicant's invention, as claimed for example in independent claims 34 and 35, discloses a specific training method for a DSL transceiver including means for generating a sliding window based on a timing signal representative of the NEXT and FEXT

periods, and means for discriminating whether a transmitted symbol belongs to and was transmitted using a bitmap associated with either the NEXT period or the FEXT period.

More specifically, for example as claimed in independent claim 1, Applicants' transceiver includes a sliding window generating unit, for generating a sliding window based on a timing signal reflective of the NEXT and FEXT periods, and a sliding window transmitting unit, where the sliding window generating unit further includes a hyperframe counter for periodically counting a predetermined number of symbols constituting a hyperframe, and a decoder for discriminating based on this counter value whether a transmitted symbol belongs to a NEXT period or FEXT period at the receiving side. In addition, for example as claimed in independent claims 17 – 20 and 31 – 33, the DSL transceiver includes means for detecting the phase of a carrier signal transmitting the symbol in order to determine whether it belongs to the NEXT period or to the FEXT period.

Tyrell discloses a synchronous optical transmission (SONET) system comprising fiber transmission systems, terminal multiplexers and add/drop multiplexers. The terminal multiplexers include a low-speed DS-1 interface for interfacing to a high-speed STS-1 signal.

Unlike Applicants' claimed invention, Tyrell does not disclose a DSL system. The Examiner suggests that the DS-1 circuits described by Tyrell are inherently digital subscriber lines. This interpretation, however, is inconsistent both with the nature of a DSL system as described in Applicants' specification, and with the industry-accepted definition of a DSL system. DSL systems employ advanced modulation/demodulation

techniques enabling high-speed data communications over individual subscriber loops. Tyrell's DS- 1 interface does not provide for communications over individual subscriber loops. In addition, Applicants submit that Tyrell fails to disclose a variety of other specific limitations of Applicants' claimed invention.

Tyrell fails to disclose Applicants' claimed means for generating a sliding window based on a timing signal representing periodical noise duration (NEXT and FEXT period durations) together with means for discriminating the kind of durations based on a status of the sliding window, as claimed in Applicants' independent claims 34 and 35.

As claimed in Applicants' independent claim 1, Tyrell fails to disclose a hyperframe counter for periodically counting a predetermined number of symbols and a decoder for discriminating whether a symbol belongs to a FEXT period or NEXT period based on a hyperframe counter value. Applicants' respectfully disagree with the Examiner's characterization equating SONET channels with a DSL hyperframe.

As claimed in Applicants' independent claims 17 – 20 and 31 – 33, Tyrell fails to disclose detecting the phase of a carrier signal in order to recognize whether an associated symbol belongs to a NEXT period or to a FEXT period. Applicants' respectfully disagree with the Examiner's characterization analogizing alternating Barker codes in digital frames with carrier signal phase.

Accordingly, Applicants respectfully submit that independent claims 1, 17 – 20, 31– 35 are not anticipated by Tyrell. As claims 2 – 16 and 21 - 30 depend directly from

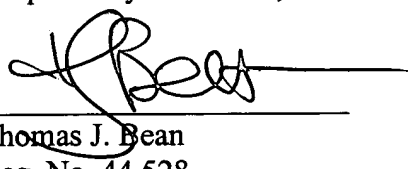
these allowable independent claims, Applicants respectfully submit that claims 2 – 16 and 21 - 30 are allowable for at least this reason.

CONCLUSION

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that claims 1 – 35, which include independent claims 1, 17 – 20 and 31 – 35, and the claims that depend therefrom, stand in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



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